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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,417	06/30/2000	Reed J. Sloss	042390.P8795	9524

7590 08/13/2004
Thomas C Webster
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EXAMINER

DUONG, THOMAS

ART UNIT PAPER NUMBER

2143

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/608,417

Applicant(s)

SLOSS, REED J.

Examiner

Thomas Duong

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on June 14, 2004. The after-final amendment filed on June 14, 2004 has been entered and made of record. *Claims 1-24* are presented for further consideration and examination.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Drawings

4. The drawings (fig.6) are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "*root splitter reassignment logic*" must be shown "*to reassign one of said backup root splitters as a new primary root splitter responsive to detecting a problem with said primary root splitter*" or the feature(s) canceled from the claim(s). No new matter should be entered. According to the current figure 6, it is ambiguous how the backup root splitter (leaf splitter 631) can be reassigned as the new primary splitter without a data stream to split following a failure in the primary root splitter (root splitter 630).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings (fig.6) are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "*redirection subsystem*" must be shown to be included at POP site as claimed in *claim 3* or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Argument

6. The Applicants' arguments and amendments filed on June 14, 2004 have been fully considered, but they are not persuasive.
7. With regard to claims 1, 11, 17 and 22, the Applicants point out that:

- *Applicant respectfully submits that one of ordinary skill in the art would understand from the specification and drawings how the backup root splitters can be reassigned as the new primary splitter (see MPEP 2173.02). Applicant is unsure why the office action states that the reassignment is ambiguous without a data stream to split following a failure in the primary root splitter. Once the backup root splitter is reassigned as the new primary splitter, one of ordinary skill in the art would understand that it would perform the function of the primary root splitter "to split a data stream transmitted from an upstream server into a plurality of leaf splitter streams" as claimed. Accordingly, Applicant respectfully request the rejection to the claims under 35 USC 112, second paragraph be withdrawn.*

However, the Examiner finds that the Applicants' arguments are not persuasive and maintains that it is ambiguous how the backup root splitters can be reassigned as the new primary root splitter without a data stream to split following a failure in the primary root splitter. In particular, referring to figure 6, a single data stream is shown originating from server 510 of the data center 220 and ending at the root splitter 630. The root splitter, in turns, split the original data stream into separate streams ending at the leaf splitters. As shown in figure 6, when the root splitter 630 fails, how does the data stream get delivered to the leaf splitter as figure 6 shows no redundancy or backup stream getting delivered to the leaf splitter. Thus, according to the *claims 1, 11, 17 and 22*, it is ambiguous how the backup root splitters can be reassigned as the new primary root splitter without a data stream to split following a failure in the primary root splitter. Please clarify the claims so that one of ordinary skill in the art would understand the claimed invention.

8. With regard to *claims 1, 11, 17 and 22*, the Applicants point out that:

- *Applicant does not admit that Leighton is prior art and reserves the right to swear behind the reference at a later date. Nevertheless, Applicant respectfully submits that there is no motivation to combine Leighton and Wallach. Leighton explicitly states that conventional streaming methods are not fault tolerant, as summarized above. Wallach does not disclose fault tolerance with relation to streaming. Therefore, Leighton does not provide an expectation of success when using the fault tolerance method as disclosed in Wallach.*

However, the Examiner finds that the Applicants' arguments are not persuasive and maintains that there is motivation to combine the Leighton reference and the Wallach reference. Both Leighton and Wallach references concern with increasing the fault tolerant of a data streaming system. Specifically, by providing a backup splitter to the root the splitter, the availability of the system is improved and the fault tolerant of a system is increased. Furthermore, it is well known in the art to increase the fault tolerant of a system by providing backups to the primaries as well as redundancies in the system.

9. With regard to claims 2-10, 12-16, 18-21 and 23-24, they are rejected at least by virtual of their dependency on the independent claims and by other reasons set forth in the previous office action. Accordingly, rejections for *claims 2-10, 12-16, 18-21 and 23-24* are presented as below:

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 1, 11, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leighton et al. (US006665726B1) and in view of Wallach et al. (US006292905B1).
12. With regard to claims 1, 11, 17 and 22, Leighton reference discloses,
- *a primary root splitter (splitter B) to split a data stream (source signal) transmitted from an upstream server (source B) into a plurality of leaf splitter streams;* (Leighton, abstract; col.1, line 64 – col.2, line 2; fig.1)
 - *a plurality of leaf splitters (concentrator) to split each of said leaf splitter streams into a plurality of end user streams, wherein one or more of said plurality of leaf splitters is a backup root splitter;* (Leighton, abstract; col.1, lines 41-48; col.1, line 64 – col.2, line 2; col.2, lines 12-16; fig.1)

However, Leighton reference does not explicitly disclose,

- *and root splitter reassignment logic to reassign one of said backup root splitters as a new primary root splitter responsive to detecting a problem with said primary root splitter.*

Wallach teaches,

- *and root splitter reassignment logic to reassign one of said backup root splitters as a new primary root splitter responsive to detecting a problem with said primary root splitter.* (Wallach, abstract; col.2, lines 20-25; col.3, lines 50-57)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wallach reference with Leighton reference to enhance the network by providing a fault tolerant system to prevent excessive network downtime due to failure.

13. Claims 2-10, 12-16, 18-21 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leighton et al. (US006665726B1), in view of Wallach et al. (US006292905B1) and further in view of Kenner et al. (US006112239A).
14. With regard to claims 2, 4, 12, 18, 20 and 23, Leighton and Wallach reference disclose the invention substantially as claimed,

See *claims 1, 11, 17 and 22* rejection as detailed above.

However, Leighton and Wallach references do not explicitly disclose,

- *further comprising a load balancer module to direct client streaming requests to particular leaf splitters based on relative load on said leaf splitters.*

Kenner teaches,

- *further comprising a load balancer module to direct client streaming requests to particular leaf splitters based on relative load on said leaf splitters.* (Kenner, col.6, lines 39-43; col.7, line 67 – col.8, line 6; col.19, lines 51-60; module 50 on fig.2)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kenner reference with Wallach and Leighton references to enhance the performance of the network by choosing the best delivery sites to deliver the requested data to the end users. This determination can be made by perform ping and throughput tests and compare the results.

15. With regard to claims 3, 5-7, 13-16, 21 and 24, Leighton, Wallach and Kenner references disclose the invention substantially as claimed,

See *claims 1, 11, 17 and 22* rejection as detailed above.

Furthermore, Kenner and Wallach references disclose,

- *further comprising a redirection subsystem (mirror service provider MSP) to redirect client streaming requests to a particular point of presence site (delivery site). (Kenner, col.5, lines 9-12; col.15, lines 32-35; col.16, lines 62-67)*
- *further comprising redirection subsystem update logic (resident process 152B) for notifying said redirection subsystem of said new primary root splitter (server 54) responsive to said backup splitter (server 54) being reassigned as said new primary root splitter. (Wallach, col.3, lines 50-57; col.8, lines 59-63; col.8, line 67 – col.9, line 2)*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Kenner reference with Wallach and Leighton references to enhance the performance of the network by choosing the best delivery sites to deliver the requested data to the end users. This determination can be made by perform ping and throughput tests and compare the results. Furthermore, the combination above would enhance the network by providing a fault tolerant system to prevent excessive network downtime due to failure.

16. With regard to claims 8-10 and 19, Leighton, Wallach and Kenner references disclose the invention substantially as claimed,

See *claims 1, 11, 17 and 22* rejection as detailed above.

Furthermore, Wallach references disclose,

- *further comprising monitoring logic (monitor & LAN beat detector 322) for monitoring said primary root splitter to determine whether said root splitter is operating within normal parameters. (Wallach, col.2, lines 16-25; col.10, lines 4-11; col.12, lines 24-33; module 322, fig.7)*

- *wherein said monitoring logic receives a periodic heartbeat signal from said primary root splitter, and wherein not receiving said periodic heartbeat signal for one or more periods indicates a problem with said primary root splitter.* (Wallach, col.2, lines 16-25; col.10, lines 4-11; col.12, lines 24-33; module 322, fig.7)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Wallach reference with Leighton and Kenner references to enhance the network by providing a fault tolerant system to prevent excessive network downtime due to failure. This can be accomplished by actively monitoring the health of the primary server and immediately switch over to the backup server in case of a failure with the primary.

Conclusion

17. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

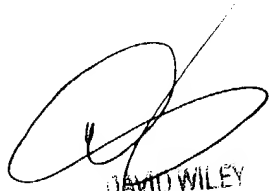
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 703/305-1886. The examiner can normally be reached on M-F 7:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on 703/308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are 703/872-9306 for regular communications and 703/872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/305-3900.

Thomas Duong (AU2143)

August 6, 2004


DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100